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‘National champions’ in global meat supply chains: implications for governance and corporate power in food systems

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Abstract

National champion policies in BRICS countries pose challenges for governance in global meat processing markets as they increase concentration, reduce competition and enhance corporate power in food systems. We investigate the degree to which these shifts benefit sponsoring governments and citizens relative to intervention levels. By analysing mergers and acquisitions involving these firms, we unveil coordinated growth strategies benefiting primarily transnational capitalist investors. Our findings underscore the need for heightened scrutiny of national champion mergers and consideration of stronger international antitrust regulation. Understanding the evolving corporate power dynamics in meat supply chains is essential for improved ecological and social outcomes.

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Introduction

'National champion' policies are based on the rationale that government support for the growth of leading firms in strategic sectors will advance the interests of the nation and its citizens. In meat processing industries, this has catalysed the increasing global dominance of BRICS-headquartered firms, particularly those from

Brazil and China. Have these changes benefitted sponsoring governments or their citizens relative to the degree of intervention? We address this question by analysing changes in firm boundaries involving the world's largest meat processors, and their impacts, from a capital as power perspective.

Although lax antitrust enforcement in many national markets has contributed to the consolidation of hundreds of previously distinct firms into just dozens, national champions have gained significant additional advantages over other firms. Greater resources to acquire other leading firms or key divisions within these firms, for example, have enabled the differential potential for 'buying' rather than the slower and riskier strategy of 'building' growth, and ensured that they were among the acquirers rather than the acquired. Boundaries between the largest remaining meat processing firms have been further blurred by data sharing schemes to coordinate production and pricing.

Our analysis indicates that dominant firm interests increasingly align with supporting transnational capitalist goals rather than national agendas, therefore citizens who paid for national champions supports are paying again with higher food prices and additional negative consequences for population and planetary health. We therefore suggest that efforts to revitalise antitrust enforcement should consider potential impacts that extend beyond national boundaries, and require much higher scrutiny for deals involving national champions.

Literature review

Corporate agri-food monopoly power is intensifying globally, with more recent contributions from countries like China and Brazil over the last decades. Brazil is predicted to surpass the EU and the US as an agricultural exporter by 2030 and South-South trade now accounts for a quarter of total agricultural flows (Bellmann, Lee, and Hepburn 2019). This shift in agribusiness power is occurring against

a backdrop of wider geopolitical power transitions, resulting in a materialising 'multipolar' food regime (Jakobsen 2021). Where US and European firms have previously held export power in international food trade, this dominance is being eroded by emerging players from Brazil, Argentina, China, Russia, and Thailand (McMichael 2020). This phenomenon mirrors the broader rise of 'BRICS' power – Brazil, Russia, India, China, South Africa – in trade of manufactured goods and raw materials globally. For food systems, the presence of the state in markets represents a shift away from McMichael's traditional conceptualisation of the 'Corporate Food Regime' (McMichael 2013a), and suggests the emergence of neomercantilism (McMichael 2013b), supported by a 'post-democratic era of financial globalisation' (Streeck 2016).

Notably, this shift is also quite evident in meat and soy production, where prominent players from Brazil and China have risen to prominence over the past decade. Where US firms like Tyson Foods and Cargill have historically occupied the top rankings in the global meat supply, companies like JBS S.A. (Brazil), WH Group (China), and Marfrig (Brazil) are now competing for, and in some cases, overtaking these positions. The Brazilian company JBS S.A, for instance, produces 32 billion pounds of animal products per year and is the largest meat producer in the world (Gelles 2023). A distinctive hallmark of this transition is the increased involvement of the state in the operations of these firms, particularly as meat and soy markets have been identified as a strategic sector for ensuring economic stability via food exports (Pritchard et al. 2016). While government investment aimed at supporting the meat industry is not new, the degree of involvement from the state in these more recent leading meat processors is decidedly greater and more direct. This policy approach is often referred to as *national champions*.

National champions

Within a national champion policy framework, governments

elect either a sole or group of corporations, often in strategic sectors, to advance national interests (McMichael 2020). This can be part of a broader economic approach to promote specific industries and enhance their global standing for national development (Sørgard 2007). In Brazil, for instance, national champion policies have historically aimed at increasing the international presence of domestic firms, leveraging the country’s comparative advantage in sectors like meat production. This strategy aligns with the broader goal of boosting the economy through sectoral growth, similar to South Korea’s approach in the 1960s and 1970s (Ricz and Schedelik 2023). Support for national champion firms can take various forms, including subsidies and state-sponsored loans, the promotion of mergers, opposition to mergers of a domestic firm by foreign enterprises, preferential access to land and resources, brokering partnerships with investors, and lowering other obstacles to increased market growth (Ricz and Schedelik 2023; Stancke 2020). Importantly, the term for ‘national champion’ type policies can be flexibly applied to a range of state-interventions in markets, and as such, it can sometimes be unclear whether a firm is considered a ‘national champion’ by their respective State. This ambiguity can also emerge when national champion policies are conflated with industrial policies. One key difference is that national champion policies focus on specific firms and their growth strategies, whereas industrial policy is a broader framework encompassing a range of measures to foster overall country industrial and economic development (OECD Global Forum on Competition 2009). National champion policies are usually a feature of a wider industrial policy, but not all industrial policies are national champion policies. Nevertheless, the intent driving both approaches is usually analogous: to support firms to become ‘leaders’ in a market, i.e. to dominate. By enabling a firm's monopoly and stifling market competition, national champion policies claim to boost economic transcendence for their respective countries. However, they also lead to an array of negative implications for competition and public

interest concerns (McMichael 2020).

The nature and extent of national champion policies can also vary by country. For example, in China, national champion policies have been embedded as part of their ‘Belt and Road Initiative’ (2013), an infrastructure development strategy aimed at generating greater global leadership from China (Zhu 2018). The state-owned food processing firm, COFCO, is one such beneficiary. COFCO is now China’s largest food processor, manufacturer and trader and is a leading agri-food firm in Asia (Wesz, Escher, and Fares 2021). Under the supervision of the State-owned Assets Supervision and Administration Commission of the State Council – whose directive is to promote domestic and international mergers and reduce competition – COFCO has received substantial capital to expand into global markets (Yelery 2020). With these sizable resources, COFCO was able to make a series of strategic acquisitions and penetrate an already highly concentrated global commodity trading market, particularly soy and sugar (Fares 2023). Subsequently, it overtook the previously dominant ‘ABCD’ grain traders – Archer Daniels Midland, Bunge, Cargill, and Louis Dreyfus –, leading to a restructuring of power relations after a long US dominance in global soy and grain markets (Belesky and Lawrence 2019). McMichael describes this phenomenon as ‘agro-security mercantilism’ – i.e. the drive of the State in shaping markets to guarantee their food supply (McMichael 2013b). China also designates ‘dragon head enterprises’ as lead firms and assists them with the goals of industrialising and consolidating key agribusiness sectors. Dragon heads may take many organisation forms, from a state-owned firm like COFCO, a publicly traded corporation like WH Group, or even a wholly foreign owned enterprise, and support may include subsidies, low or no-cost loans, and tax breaks (Schneider 2017).

In contrast, Brazil has supported its national champions via preferential loans funnelled through the conduit of the National Bank for Economic and Social Development (BNDES). Its largest meat processing firms (JBS, Marfrig and BRF-Brasil Foods) absorbed

almost two thirds of the allocated national champion funds (Sharma and Schlesinger 2017). These firms are now some of the leading meat processing conglomerates globally. In the Brazilian case, it is worth highlighting the proximity between the National Bank, companies and politics. BNDES has a strong influence on the internationalisation of the domestic meat sector through shareholding participation that allows for significant capitalisation of the companies. These, in turn, have formed ties with the government, making them strongly related to national party politics (Bispo 2023). While the aim of these policies has been to position Brazilian firms as global leaders rather than shield them from foreign monopolies, their geopolitical alignment with economic objectives has given them significant advantages over competitors (Ricz and Schedelik 2023). However, while Brazil's national champion policies are not part of a coordinated international initiative like China's Belt and Road, both strategies share the goal of expanding the global reach of their domestic firms. China's approach centres around building infrastructure and trade routes to increase its influence abroad, whereas Brazil focuses on strengthening key industries, like meat processing, to help them succeed in international markets (Wu 2024).

The expansion of national champion meat processors has contributed to the development of a symbiotic relationship between Brazil and China known as the soy-meat-complex (Escher and Wilkinson 2019). In the last decade, Chinese enterprises have invested USD 43 billion into agricultural production internationally, acquiring operations within global soybean supply chains, most notably in Brazil (GRAIN 2019). China has become the primary destination for Brazil's soy exports and a major consumer of its meat products, with Brazil exporting 60% of its meat to China (Ziolla Menezes 2023). The strategic interdependence in these key agricultural sectors underscores the global significance of their economic collaboration and the web of connections shaping the contemporary landscape of international trade and food security. US

firms have also benefitted from this alliance. Parker-Migliorini International (PMI), a global meat distributor, facilitated the export of USD 1.7 billion in beef from Brazil, 95% of which was sent to China (Chavkin 2023). PMI has been a major facilitator to China's increased consumption of beef, to the extent that it operates as a wholly foreign-owned enterprise (WFOE) in China – a status that grants reduced legal and operational barriers than those faced by most foreign businesses attempting to do business in China (Barry 2022).

The implications of high concentration in meat supply chains have been explored extensively in previous literature (Howard 2019, 2017; Lazarus, McDermid, and Jacquet 2021; Sievert et al. 2022). Intensifying production of meat results in detrimental impacts to biodiversity, water and land quality, and increased greenhouse gas emissions (Clark et al. 2022; Longo, Isgren, and Clark 2021; Ritchie and Roser 2020), as well as contributions to public health concerns such as antimicrobial resistance, the development of new zoonotic diseases, and the increasing burden of diet-related chronic diseases (WHO 2023). Critically, industrial meat supply chains are inherently harmful to animal and social welfare (Schneider 2014). Further, as recent events such as COVID-19 and the war in Ukraine have revealed, highly centralised supply chains are vulnerable to shocks and pose risks for economic and food security (Hendrickson 2020, 2015; Yu et al. 2021).

Academic attention to the harms associated with corporate concentration has grown over the few last decades, particularly in relation to their impact on public health and the environment (Clapp 2018, 2021; Wood et al. 2021). In more recent years, this attention has been complemented by that of governments and policymakers. For example, the US Federal Trade Commission and Department of Justice (FTC-DOJ) has overseen a renewed emphasis on antitrust reform, unveiling a set of 11 guidelines aimed at preserving competition in merger and acquisition (M&A) transactions in December 2023 (FTC-DOJ 2023). The guidelines are

underpinned by the premise that mergers can violate the law when they contribute to the concentration of already highly consolidated markets or substantially curtail competition. They represent a comprehensive effort to address the pressing concerns associated with heightened and excessive corporate power, in the pursuit of safeguarding market competition, equitable access, and reduce the impact of high concentration on public interests. However, how these guidelines might fare in the context of globalised markets and the increased presence of state-backed conglomerates is yet to be seen. Further, the consideration of capital accumulation as a means of not only market dominance but expanding power and influence in food and socio-political systems – i.e. *capital as power* – may be overlooked. Meat companies actively monitor developments in antitrust and also try to advance their interests through lobbying. In February 2023, for example, it was reported that JBS had increased the number of U.S. based lobbyists defending its interests – from 12 to 15. This was the largest team ever used by the company, with the main targets being activities related to agriculture, immigration – crucial for its workforce – and antitrust (Setti 2024).

'Capital as power'

Our paper is underpinned by the notion that the accumulation of capital by dominant firms is not merely a tool for market growth, but also a means of acquiring power and influence – and thus the capacity to shape regulatory and sociopolitical environments, to their will. Articulated by Nitzan and Bichler (2009), *capital as power* contends that capital is not 'a narrow economic entity, but a symbolic quantification of power' (Nitzan and Bichlet 2009). For publicly traded firms, market capitalisation figures can be viewed as a consensus estimate of power – from the perspective of capitalist investors – they quantify expectations of a given firms' potential to shape and reshape society in the future, while discounting for perceived risks. In addition, power is differential, therefore

dominant firms do not seek maximum rates of growth, but growth that is greater relative to other dominant firms. Gigantic meatpacking firms may have the capacity to increase their power differentially via circumventing national import bans, increasing captive supplies and reducing livestock auctions, and becoming a category captain with the ability to assign shelf space to competitors at retailers. Politically and socially, they may be able to influence legislative change, shape regulatory environments, reshape consumer preferences and retail accessibility, and ultimately, maintain a favourable status quo.

This framing may underline the M&A strategies of some large corporations. Buying competitors is a quick way to bolt on growth, rather than the typically slower strategy of building or growing internally. Acquisitions have multiple potential advantages for increasing differential power, such as reducing the number of competitors and increasing the ability to raise prices (Fix 2023; Nitzan and Bichler 2009). Breaking through previous ownership 'envelopes' (Nitzan and Bichler 2009, p. 332) may also open new opportunities for growth that were previously constrained by industry boundaries (e.g. formerly upstream suppliers or downstream customers) or geography (e.g. national borders). In political economic contexts that have enabled M&A strategies, one result has been a trend of industry consolidation – the number of firms is continually reduced, as the largest of these acquire and merge with each other, and increasing barriers hinder the entrance of new competitors. Another potential consequence is greater levels of coordination between the fewer and larger remaining firms, further blurring their organisational boundaries.

'Gin rummy' managerial behaviour, a concept popularised by Warren Buffet (Buffett 1983), for example, involves major firms engaging in asset swaps and divestitures with each other. Dominant firms often seek to be number one or two in sales for a given market and may sell assets or subsidiaries in lower-performing divisions where they don't hold a top-two position (Hannaford 2007). This is

exemplified through the trademarking of the motto 'segment, concentrate, dominate' by Tyson Foods (Bonanno and Constance 2008). Where a given swap reduces a firm's productive capacity or potential, it may still result in a higher total market capitalisation, reflecting investor expectations of an increase in power, and an ability to reshape society to its advantage. Notably, national champion firms may have more flexibility in employing 'gin rummy' style growth strategies due to the presence of a state-sponsored 'safety net', which cushions them from any potential associated risks. This style of growth strategy also has potential fiscal benefits for the origin state, which has an espoused goal of assisting these firms to become dominant and reduce competition (Agarwal 2023).

To understand this new agri-food landscape in relation to meatpacking firms, the current paper aims to explore the following questions;

1. How do corporate growth strategies compare between meatpacking firms that are national champion and those without substantial state support?
2. How do these growth strategies intersect with each other? Do national champion firms have more flexibility for 'gin rummy' managerial behaviour with a state-sponsored safety net?
3. Have these changes benefitted sponsoring governments or their citizens relative to the degree of intervention?

Methods

To answer these questions, we conducted a comprehensive analysis of changes in firm boundaries among the top 25 global meat processors, considering: (a) ownership changes, with focus on 'gin rummy' transactions between 2000 and 2023, (b) changes in market capitalisation figures for publicly traded firms during this same period, (c) current levels of common ownership by institutional investors, and (d) connections via data sharing schemes. We then contextualised these findings with political

economy literature to analyse various advantages gained via national policy differences and the resulting impacts associated with them.

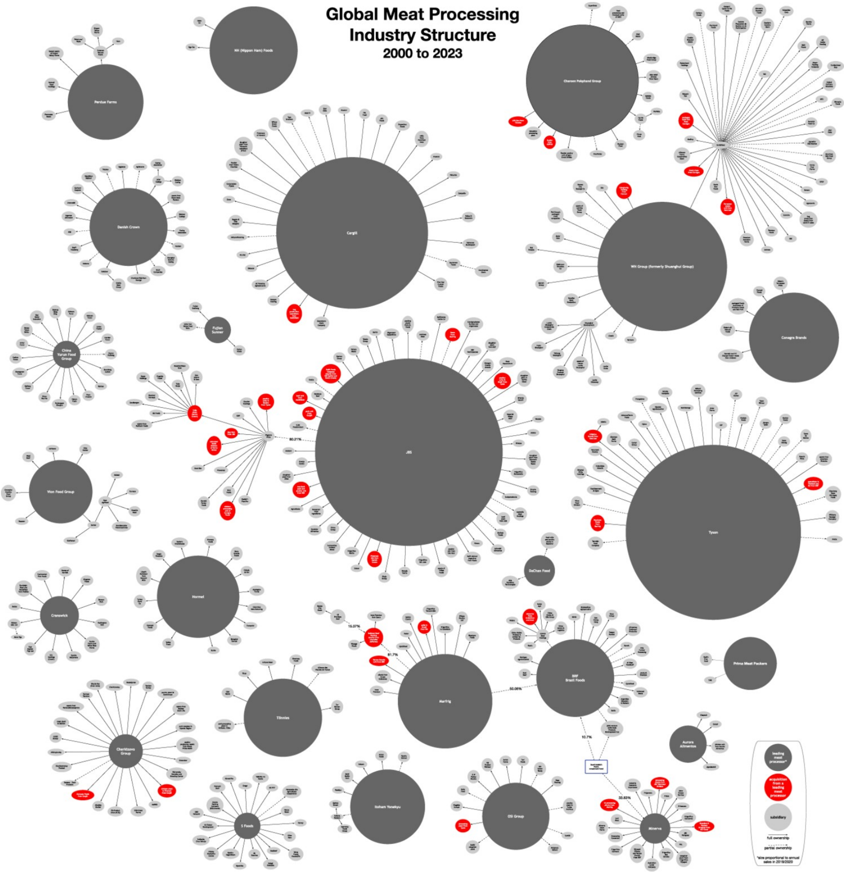
Data for mergers and acquisitions were sourced from two primary databases: 1) Thomson Reuter's SDC M&A database (Thomson Reuters 2023); 2) PrivCO (PrivCo 2023); and then branching searches of press releases and trade journals were conducted via keyword searches. Transactions were triangulated across databases for verification. 'Gin rummy' transactions were then identified, with a definition of ownership as more than 50% equity for the selling or acquiring firm. Additional searches of trade journals, press releases and media articles were conducted to analyse how these acquisitions were framed by the firms and news media. Market capitalisation figures for publicly traded firms were obtained primarily from the website https://companies.marketcap.com, and institutional ownership percentages were collected from LSEG Workspace (formerly Refinitiv). Connections involving data sharing schemes were acquired from the US Department of Justice complaint against Agri Stats Inc. (2023), and network data visualisations were created with OmniGraffle.

Results

Examining mergers and acquisitions among the 25 most dominant meatpacking firms (defined as more than USD 3 billion in annual sales in 2022), two key trends were observed. Firstly, almost all dominant firms have been actively engaging in transactions that involve the sale of divisions to other top 25 firms (see acquisitions highlighted in red in Figure 1). For example, Tyson Foods participated in a series of sales of its Latin American divisions between 2014-2016. Tyson sold units in Mexico and Brazil to JBS, Pilgrim's Pride (over 75% owned by JBS), and OSI Group in a strategic move to jettison its lower performing divisions. CEO Donnie Smith reportedly told analysts that while the Mexican and

Brazilian businesses ‘were certainly good and profitable for Tyson Foods, they did not have the necessary scale to gain leading share positions’ (Jones 2020). These sales allowed Tyson to instead focus on growing its dominance in Asian meat markets.

Figure 1 Ownership changes involving the 25 most dominant global meat processors, 2000 to 2023.



Secondly, some national champions were engaging with this growth strategy more so than incumbent firms. JBS and WH Group, in particular, have displayed a proclivity for ‘gin rummy’ type acquisitions. For example, Seara – a Brazilian food processing company – has undergone numerous ownership changes over the past few decades. It was bought first by Ceval in 1980, then by Bunge in 1997, by Cargill in 2004, Marfrig in 2009, and finally, by JBS in 2013. Each time, Seara was sold at a higher price to the next

bidder. The 2013 purchase by JBS was framed as assisting them to surpass Tyson Foods Inc. as number 1 in the global poultry market, despite the purchase occurring on top of JBS' BRL 21.2 billion (~USD 9.9 billion) in debt (Meat + Poultry 2013). This type of brazen buyout, taking place in the context of high debt, demonstrates that concerns that would ordinarily be a barrier to purchase for a traditional firm, are not concerns for national champions – who are supported by a variety of state-backed protections. BNDES, for instance, considered the deal between JBS and Marfrig to be positive (Época Negócios 2013) but it was received with caution by the market, which was concerned about the company's increased levels of debt, leading its shares to suffer their worst fall in six months on the Bovespa (Brazilian Stock Exchange). Moody's rating agency put its rating under review for possible downgrade at that time (Gomes 2013).

Another example involves the Chinese firm, Shuanghui (now WH Group), which acquired Smithfield in 2013 for USD 7.08 billion. Smithfield had previously made gin rummy acquisitions (a packaged meats unit from ConAgra, Cook's Ham from ConAgra, and the European meats unit from Sara Lee) before it was fully acquired by a much smaller firm – the deal was the largest ever acquisition of a US firm by a Chinese firm. Shuanghui, which was also the majority shareholder in China's largest meat processing firm, Henan Shuanghui Investment and Development Co., outbid other national champion firms such as JBS and Charoen Pokphand Foods by paying a 30.9% premium over Smithfield's trading price (Chen, Chan, and Craddock 2021). At the time, Smithfield had been reporting declining revenues, but the acquisition represented an opportunity for Shuanghui to become the top pork processor in the U.S. market, and third in global pork markets (Chen, Chan, and Craddock 2021). While Shuanghui/WH Group no longer has ownership ties with the Chinese government, the Bank of China (owned by the Chinese government) approved a $4 billion loan in just one day for this acquisition (PBS NewsHour 2014), emphasising that its capacity to

grow in such unprecedented time is partly attributable to its history of state support and the government's ability to expedite financial support for strategic initiatives. WH Group subsequently acquired Clougherty Packing and three farm operations from Hormel, in 2016. Hormel's CEO said, 'While these businesses have performed well, they no longer align with our company's growth strategies' (Hormel Foods Corporation 2016).

Incumbent meat processing firms have also been central to key swaps and pickups by JBS, which has made 12 'gin rummy' acquisitions (see Figure 1) – followed by a three-way tie for second place between Marfrig, Minerva, and Tyson, each with three. Like the WH Group's acquisition of Smithfield, JBS also used state support to buy a much larger firm, Swift (formerly owned by ConAgra), in 2007. In 2023, the CEO described this event as 'the most pivotal moment in our history. JBS went from a $2 billion company to a $10 billion company overnight' (Fusaro 2023). Later, in 2015, Cargill sold its pork division to JBS for USD 1.45 billion (Reuters 2015a). This acquisition helped JBS USA become the second-largest pork packer in the country – just behind Smithfield Foods (Reuters 2015b). For Cargill, this meant re-focusing efforts on 'other animal protein' production (Reuters 2015a). A trade publication speculated on Cargill's potential 'gin rummy' play, noting that they had 'long been the fourth largest U.S. pork slaughter firm, trailing Smithfield, Tyson, and JBS' (Mayer 2015). Similarly, Smithfield sold the entirety of its cattle division (5th in the US beef market) to JBS for USD 565 million, to strategically concentrate on their pork business (later to be absorbed by WH Group, as described above). Pilgrim's Pride, which is majority-owned by JBS, acquired Tulip from Danish Crown and the consumer foods division of Kerry Group. In other words, five of the leading U.S and European meat processing firms (Tyson, Cargill, Smithfield, Danish Crown and Kerry Group) sold their lower performing divisions to the national champion JBS, which was willing to pay high prices to bolt-on growth. In contrast, Tyson's acquisitions and

divestitures likely reflect a more conservative approach, as the company operates without the state-backed safety net experienced by JBS, making its decision-making more risk-averse and reliant on internal capital and market conditions.

JBS has not divested any divisions to leading U.S. or EU meat processors – although the firm did sell some processing plants in Mercosur (Argentina/Brazil/Paraguay/Uruguay) to Minerva and divested the Moy Park division to their U.S. subsidiary Pilgrim's. Two other Brazil-headquartered firms, however, have made 'gin rummy' sales to Tyson – Keystone Foods from Marfrig, and operations in Thailand and EU from BRF. Marfrig, also made two acquisitions involving dominant US firms – National Beef Backing from Leucadia, and units in Brazil from OSI.

Two national champions from Brazil, Minerva and BRF, are now also receiving state support from another nation. Ownership stakes in these corporations are held by a wholly owned subsidiary of Saudi Arabia's public investment fund, Saudi Agricultural and Livestock Investment Company – 33.83% of Minerva, and 10.7% of BRF (SALIC 2020, 2023). Another 50.06% of BRF is held by Marfrig, and these 'sister companies' share a building and chairman (Marcos Molina dos Santos), with expectations that they will eventually combine into one firm (Freitas 2023). For the Saudi government, maintaining access to Brazilian meat (particularly halal-certified products) may be positioned as a means of ensuring food security for its population, and by extension, its legitimacy (Sampaio 2023). This international dimension strengthens the position of Brazilian national champions in the global meat market, particularly as a key player in halal meat provisioning (Mano 2023a), adding layers of political and economic resilience to their growth strategies. However, this outward focus on enhancing food security for other nations sits in stark contrast to the persistent food insecurity faced by many within Brazil, raising critical questions about the priorities and implications of the global expansion of national champions.

Cherkizovo has received significant support from the government

of Russia, which has helped the firm to make two gin rummy acquisitions from Cargill, as well as vertically integrate into grain farming. One analyst noted that without subsidies for bank lending, the firm 'would have seen profit 25% lower in the first nine months of 2010' (Peaple 2011). In 2014, the CEO, Sergei Mikhailov, said of government interventions, such as interest rate subsidies: 'The form of support may be different, but it's always needed.' (Cherkizovo Group 2014).

State support, particularly in the form of lower-cost financing, has played a crucial role in enabling firms like JBS, WH Group, and Cherkizovo to outbid competitors and secure strategic acquisitions, thereby expanding their market share. Such support provides these national champions with a competitive advantage over non-national champion firms that may not have access to similarly favourable financing conditions. This preferential access to capital not only facilitates bolt-on growth, but also fortifies their dominant positions in the global meat industry by making them more resilient and adaptive to market opportunities. The intersection between the growth strategies of national champions and firms without state support is most evident in the competitive pressures they exert on each other. National champions, with their ability to absorb losses through state support, have driven further consolidation within the industry, often impelling non-state-supported firms to divest or focus on niche markets. This dynamic is exemplified by the acquisition of lower-performing divisions from firms like Tyson and Cargill by state-backed champions such as JBS, highlighting a growing divergence in their strategic options.

Acquisitions by dominant meat processors and highlighting of 'gin rummy' style managerial behaviour

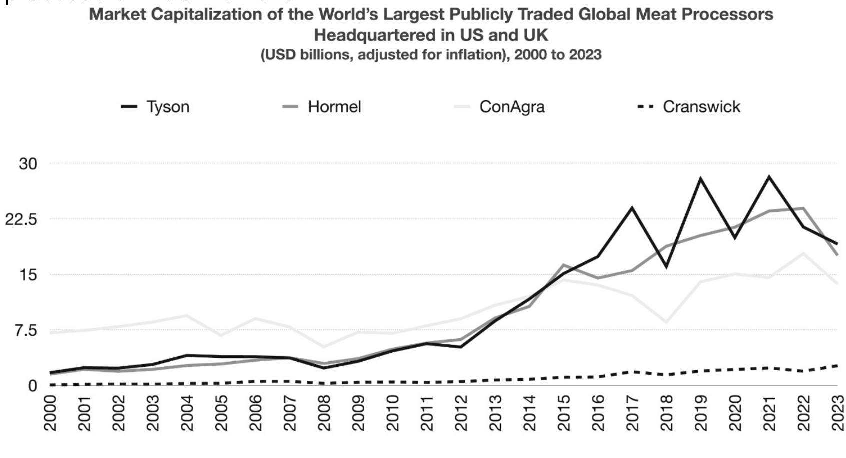
'Gin rummy' style acquisition strategies run counter to the recent U.S. merger guidelines, contravening key principles such as

Guideline 1) preventing high levels of market concentration, Guideline 2) maintaining competition between firms, and Guideline 6) avoiding the entrenchment of dominant positions. These acquisitions, by their nature, pose challenges to competition and can lead to monopolistic tendencies.

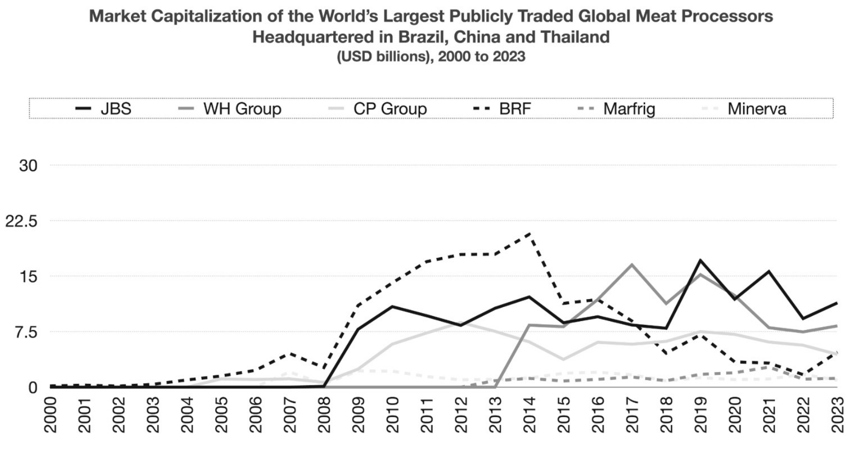
Most M&A enforcement occurs on a case-by-case basis. However, these 'gin rummy' style growth strategies highlight the cumulative impact on concentration from a series of seemingly small acquisitions. While some of these transactions take place within the U.S. and may raise concerns under existing merger guidelines, others occur outside U.S. jurisdiction, often benefiting from state-backed financial flows or foreign investment strategies that circumvent traditional antitrust scrutiny. It's important to acknowledge that the context within which any given transaction occurs plays a role in increasing broader concentration and power imbalances. Some proposed reforms may be more context-specific to the meat and food industry, as opposed to the draft merger guidelines, which are broader in scope and potentially less adaptable to specific contexts. The challenge of M&A reform lies in recognising these wider contexts and their role in exacerbating broader concentration and power imbalances.

The most powerful publicly traded meat processing firms, as represented by a market capitalisation of more than 1 billion USD in 2023 are presented in figures 2a and 2b, which show annual figures from the end of the year 2000, to the end of the year 2023. The y axes plot market capitalisation in USD billions (adjusted for inflation using the CPI-U), as 2023 equivalent dollars. Figure 2a indicates that at the beginning of this period, only three US-headquartered firms had a market capitalisation of more than $1 billion. Two of these firms increased their market capitalisation substantially by 2023, with inflection points for increasing growth rates in 2012 for both Tyson and Hormel. By 2015, the UK-headquartered firm Cranswick also attained a market capitalisation of more than $1 billion. By 2023, Tyson, Hormel and ConAgra's figures were all

above $13 billion, while Cranswick's was approximately $2 billion.**Figure 2**. Market capitalization of the largest publicly traded global meat processors in USD billions.



(a)



(b)

Figure 2b indicates that in 2000, no firms headquartered in Brazil, China or Thailand had a market capitalisation of more than 1 billion USD. By 2017, however, four firms from Brazil, one from China, and one from Thailand had exceeded the $1 billion threshold. The inflection points show the most rapid growth rates for JBS, BRF and CP Group beginning in 2008, and for the WH Group beginning in 2013 – this was primarily due to the acquisition

strategies discussed above. The largest of the BRICS meat processing firms, JBS, had a lower market capitalisation than the three largest US firms in this industry at the end of 2023 ($11.4 billion), but its executives argue that they are undervalued by investors. JBS CEO Gilberto Tomazoni, for example, stated that a recent quarter ranked them as the world's largest food company by revenue, and that their product diversity and global scope allow the firm to 'neutralise one cycle with another cycle, and one geography with another protein business' (Condon 2023).

Figure 3 shows the high levels of common ownership in publicly traded meat processors held by institutional investors (or asset management firms). The U.S.-headquartered meat processors have the highest ownership shares held collectively by the four largest financial firms in this sector – Vanguard, BlackRock, Rowe Price and State Street – ranging from a combined 15.5% for Hormel to 27.8% for Tyson. Vanguard and BlackRock also have substantial investments in all leading BRICS firms, however, and are among the largest investors in 9 firms across the meat processing industry globally. These patterns raise concerns that they increase incentives for industry consolidation and anti-competitive behaviours (Clapp 2019). An analysis of the global seed industry, for example, found that high levels of common ownership made substantial contributions to increasing prices for commodity seeds from 1997 to 2017 (Torshizi and Clapp 2021).**Figure 3**. Institutional investors in the world's largest publicly traded global meat processors (percentages of common stock equivalent held, December 2023).[3]

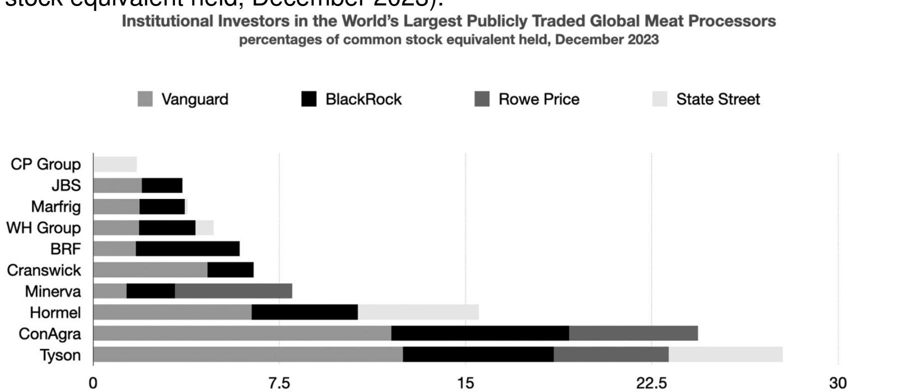
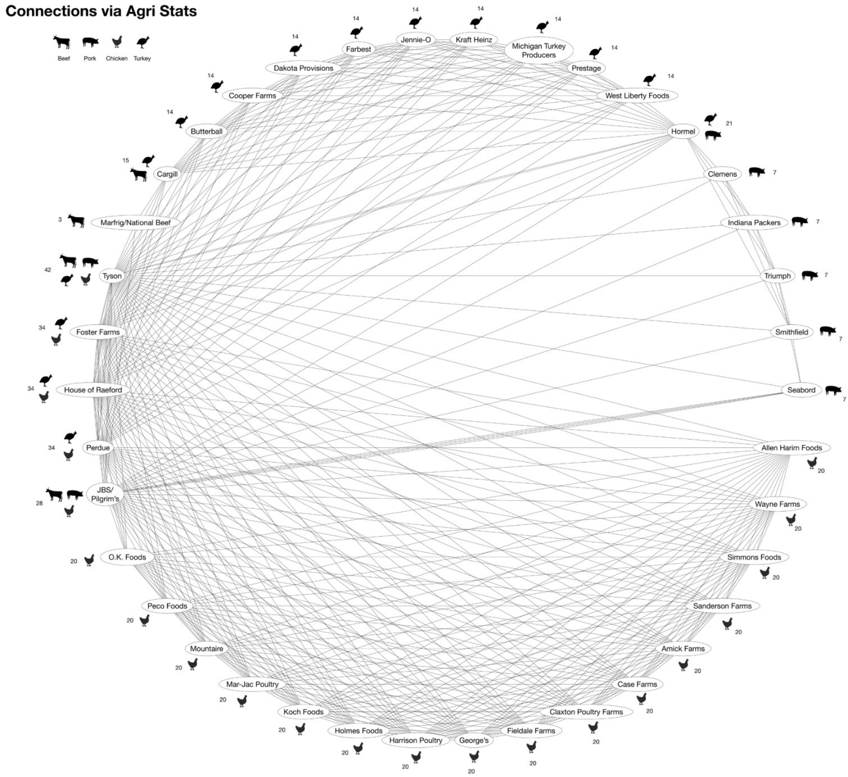


Figure 4 shows the information connections between meat processing firms enabled by membership in Agri Stats, Inc. data sharing services. Participation allows these firms to exchange competitively sensitive data, such as current costs, output, prices and profits. The highest number of links is held by Tyson, with 42 connections to firms in all four livestock sectors, and JBS is in fifth place, with 28 connections across three of these sectors. Hundreds of lawsuits have alleged that participating firms used Agri Stats reports to coordinate lower production levels and increase prices (Donna and Walsh 2023; Li and Weisman 2023; Sappington and Turner 2023). An analysis of earnings call transcripts from 2003 to 2020 suggests that larger chicken processing firms in the industry may signal their intentions to reduce production levels (using keywords, such as 'cuts', 'reductions', 'discipline' and 'constrain' on these calls) and the smaller firms follow suit – Agri Stats data could be used to easily identify and punish firms that are violating collusive arrangements (Sheng and Vukina 2024).

Figure 4. Connections to meat processors in the U.S. via membership in Agri Stats, Inc. data sharing services.



Notably, Smithfield, a subsidiary of WH Group, has faced allegations of pork price-fixing, leading to a series of financial settlements. In one such instance, Smithfield agreed to pay $75 million to settle a class action lawsuit in April, addressing allegations of conspiring to limit pork supply (Stempel 2022). Similar price-fixing settlements amounting to USD 83 million were recorded in 2021, tracing back to activities dating to 2009. More recently, the U.S. Department of Justice has filed an antitrust lawsuit against Agri Stats, accusing it of enabling anticompetitive practices in the chicken, pork, and turkey industries (United States District Court for the District of Minnesota 2023). Meat companies, including Smithfield Foods, have previously encountered lawsuits alleging the use of Agri Stats reports to conspire to drive up meat prices. Such coordination could enable firms across an industry to behave less like distinct, competing organisations, and more like a

single operation. Additional lawsuits, for example, have alleged the use Agri Stats data to drive down pay for workers in processing plants – JBS and Tyson agreed to pay USD 55 and 72.3 million respectively to settle one of these cases (Neeley 2024). Agri Stats stopped producing reports for turkey and pork in 2019 but continues to provide them to the largest chicken firms (Dayen 2023).

Who are the ultimate beneficiaries of national champion policies?

Some of the stated goals of a national champion policy are to 1) support firms to become global leaders in their industry, which are then anticipated to 2) stimulate economic growth, job creation, and increased economic activity within the country. However, how this translates in a real-world context of broader global capitalism, in the presence of globally integrated production and financial systems (Robinson and Sprague 2018), has proven more nebulous. Brazil-based JBS has undergone significant international expansion, exemplified most recently in its attempt to enter the New York Stock Exchange in July 2023 (Mano and Samora 2023b). However, the company faces at least four complaints sent to the US authorities by organisations accusing it of 'greenwashing' and hiding information about the real impacts of its activities on climate change (Bispo 2023). JBS is also currently being sued by the New York Attorney General for misleading consumers over its net-zero emissions pledges (Dutkiewicz 2024), with the lawsuit noting that JBS' emissions are more than the entire country of Ireland (2024).

Unlike some of the national champions from China (such as COFCO), many Brazilian champions are publicly listed. This ultimately shifts whose interests are centred in decision-making by these firms. While Brazil may benefit from reducing its import dependence by providing JBS support in the form of loans, subsidies and preferential land access; the capital – and associated power –

will ultimately remain with JBS. For example, JBS has repeatedly sought to relocate its headquarters to tax havens. In 2016, plans to move to Ireland were vetoed by BNDES (Narcizo 2019), and in 2019, relocation to Luxembourg or the Netherlands was also considered (Chad 2020). Notably, JBS, Marfrig, and Minerva, all backed by the Brazilian government, collectively control a number of firms in tax haven countries. Marfrig and Minerva received at least R$49 billion between 2013 and 2020 from operations carried out in tax havens. The amount is significant: it is equivalent to Marfrig's revenue for the whole of 2019 and is two and a half times that recorded by Minerva in the same period. If it were public funds, it could sustain the payment of Bolsa Família, Brazil's largest social programme, for a year and a half for the thousands of families who depend on it, or support the functioning of the Ministry of the Environment for 17 years, based on its budget in 2021 (Papini, Wenzel, and Hofmeister 2021). Cherkizovo Group (Russia) was also alleged to have been involved in tax avoidance in 2017, and again in 2019 (Devitt and Polina 2019), including funnelling USD 5 million to a tax haven in Cyprus (Feed Strategy 2017). Reports indicated that that Cherkizovo executives utilised illegal offshore schemes to pay dividends to a Cypriot shareholder, giving Cherkizovo a reduced tax rate of 5 percent instead of the mandated 15 percent (Feed Strategy 2017). Diverting capital and profits into tax havens reduces contributions made to domestic tax revenue, meaning that instead of supporting public services and national development, these profits primarily serve corporate interests and shareholders, ultimately leaving citizens with fewer benefits from the government's support of these firms.

As these firms grow and expand their operations, instances of unethical business practices, such as price fixing and corruption, have been uncovered. In addition to the Agri Stats case noted above, another data sharing service, WMS, along with Cargill, Sanderson Farms and Wayne Farms, were fined USD 84.8 million for allegedly conspiring to fix poultry processing employee wages and benefits in

2022 (U.S. Office of Public Affairs 2022). Another scheme, to restrict supplies of poultry breeding stock and raise prices for producers, was uncovered by regulators in Zambia in 2018, and the four leading firms were assessed fines (Goga and Roberts 2023; Stempel 2022; United States District Court for the District of Minnesota 2023). These incidents further underscore the shift in focus and priorities that firms undergo as they increase market dominance with their interests primarily aligning with their own corporate objectives (such as reducing production levels as they proclaim they are feeding the populations in their market areas) rather than contributing to the broader national economy or benefiting citizens.

Varieties of national champion policies in diverse political economies

The differences in firm behaviour extend beyond the national champion policies themselves and reflect the varying political economy contexts that surround them. National policies to support firm competitiveness are dependent on aspects like the various natural resources of the country, pre-existing subsidy programmes, export capacity, and attractiveness to investors. In the case of Brazil, government subsidies for both soybean and meat production have given a double advantage to firms like JBS, BRF, Minerva, and Marfrig (Howard 2019).

The choice of soybean and meat production firms as a target of the Brazilian industrial policy after 2003 was based on the commodities boom that rapidly transformed the Brazilian economy (Kupfer, Ferraz, and Marques 2013). As a commodities exporter, Brazil underwent a period of fast growth between 2004 and 2010[1], driven by the rise in the price of commodities. Brazilian industries were internationally competitive in this economic scenario, and the government identified a potential to expand these firms' activities to leverage the Brazilian industry and international economic

relevance (Almeida, Lima-de-Oliveira, and Ross Schneider 2018). Therefore, subsidies from BNDES supported national champion growth within Brazil and their global expansion into further markets, especially during 2008–2010 (period of the Policy of Productive Development – industrial policy) (Ocampo and Porcile 2020). To illustrate, from 2001 to 2008, BNDES disbursed an average of R$112.0 billion per year, rising to R$231.2 billion between 2009 and 2013. BNDES also played an important role in financing agribusiness.

The onset of an economic recession in 2014, however, marked a turning point in this favourable economic scenario, halting the massive investments in national champions. The short-lived industrial policy was strongly criticised for being primarily driven by political pressures rather than national interests. In addition, there is no evidence that the Brazilian economy benefited from the substantial investments during that period, since they did not generate significant industrial progress in the country nor address technological gaps (Ocampo and Porcile 2020; Ricz and Schedelik 2023). Objectives such as increasing exports, investment expansion, increasing added value and increasing the education of workers were not achieved (Stumm, Nunes, and Perissinotto 2019). In addition to this negative balance, the proposed actions did not change Brazil's industrial structure between 2003-2011, with production, jobs and imports remaining unchanged both from the implementation of industrial policy and in subsequent periods. The sharpest drop in exports, which fell by 20% in the period, underscored the failure of Lula's industrial policies to address deindustrialisation (Stumm, Nunes, and Perissinotto 2019).

In fact, national champion policies in Brazil not only failed to generate returns on investment, but also became embroiled in a series of domestic scandals. In 2017, the Brazilian Federal Police led the ‘Carne Fraca Operation’, unveiling a large corruption scheme where the meat industry (JBS in particular) had been bribing the government for access to capital in privileged conditions via BNDES.

The investigation also found that the meat industry was selling expired meat to Brazilian consumers (Novaes 2017). The corruption scandal exacerbated the economic crisis, destabilising both the national economy and faith in political institutions. It is also worth highlighting that Carne Fraca Operation followed the Lava Jato (Operation Car Wash, 2014)[2], which had already unsettled Brazil's economy, as well as political and business sectors (Almeida, Lima-de-Oliveira, and Ross Schneider 2018). Despite negative international repercussions these firms continued pursuing acquisitions. For example, after agreeing to a 3.2 billion USD fine, JBS sold various divisions to raise the cash. This included a major transaction: selling Moy Park to a firm already majority-owned by JBS, Pilgrim's Pride (Teixeira 2019).

The enduring influence of JBS is evident in various instances of political exceptionalism. For example, a recent Brazilian Supreme Court justice suspended 2.1 billion USD in fines levied against the firm for bribery (Brito 2023). Despite its involvement with an array of corruption scandals, its reputation appears unaffected. In 2017, the Batista brothers, primary shareholders of JBS, signed a plea bargain with the Federal Police related to Operação Lava Jato. In May of that year, they accused former Brazilian president Michel Temer (PMDB) of facilitating a R$500,000 payment to former federal deputy Eduardo Cunha (PMDB-RJ) to prevent disclosure of information regarding Operation Car Wash. A year and a half after these allegations, JBS shareholders have seen an increase in market value of R$2.5 billion. Today, the company is valued at almost R$32 billion, 23% higher than in May 2017 (Scaramuzzo 2018), despite the Batista brothers serving brief prison sentences and being temporarily removed from their positions at JBS. In February 2024, they were reinstated and granted positions on the Board of Directors for Pilgrim's Pride, making them the two largest shareholders of the company via their controlling interest in JBS (Graber 2024).

The rising power of national champions is not merely a corporate power phenomenon but is supported and enabled by the wider

institutional and geopolitical situations in which they arise. This transition involves nation-states evolving into proactive instruments of global capitalism, aligning with the interests of the transnational capitalist class and its political agents and allies (Robinson and Sprague 2018). The strategic investments by foreign entities, such as Saudi Arabia's SALIC in Brazilian national champions (noted above), further illustrate the global interconnections in maintaining food security.

Thinking global: fit-for-purpose antitrust and competition policy

The above sections emphasise the more globalised landscape of meat supply chains, revealing a need for tailored policy measures to tackle high corporate concentration, now exacerbated by the substantial influence of national champions. The FTC-DOJ merger guidelines denote a shift toward a more modern conceptualisation of the role of competition policy by highlighting the need for policies to address unchecked concentration. However, a significant blind spot in the draft guidelines is the lack of attention to the impacts of acquisitions outside of US markets. This calls for more nuance and coordination in proposed policy responses. Clearly, deals involving national champions require much more scrutiny as countries like Brazil and China have a pronounced objective to assist these firms to become dominant and reduce competition.

Antitrust laws in countries like Brazil and China could mitigate the risks posed by National Champion firms by enhancing regulatory mechanisms that more strictly monitor mergers, especially when such firms achieve dominant positions. For example, under Brazil's 'rule of reason', mergers can proceed if they demonstrate economic efficiencies, but these efficiencies must explicitly benefit consumers (Teixeira 2011). Consumer interests in this context are largely defined within the 'consumer welfare' framework – i.e. keeping consumer prices low. However, this could be expanded to include

broader public interest tests, incorporating social and environmental impacts, labour rights, and animal welfare.

Such public interest tests have been established in countries like South Africa and other jurisdictions, whereby public interest criteria are an included dimension in antitrust decisions (Angumuthoo, Lotter, and Wood 2020). In the context of South Africa, these criteria pertain mostly to employment and impacts to historically disadvantaged populations, but countries could expand this to a wider range of public interest considerations, particularly when mergers impact sectors critical to public health, equity and environmental sustainability (Wood et al. 2024). In the case of Brazil, this could look like ensuring that the Administrative Council for Economic Defense (CADE) evaluates not just economic outcomes, but also socio-environmental ones, thereby balancing support for domestic champions with safeguards against domestic and global consolidation that negatively affect public health, worker rights, and environmental and animal welfare standards. Additionally, post-merger monitoring and compliance enforcement could prevent firms from abusing their dominant positions. However, there is a limit to the capacity of national-level focused competition policies to address these concerns on a global scale.

There exists already some recognition of the need to modernise competition policies, although how these are advanced in different countries and contexts remains under debate and involves highly technical considerations. As described above, movements to expand the ‘consumer welfare’ concept from solely focusing on low prices have grown in popularity, increasingly driven by public interest concerns (Meagher 2020). An example of this ideological shift in practice is the most recent opposition to the merger between supermarket giants Kroger and Albertsons by the US FTC, citing potential adverse effects to labour unions and grocery worker wages as their theories of harm (Dayen and Goldstein 2024). Critically, reform aimed at addressing the inequalities introduced by national champions will require democratically informed and context-specific

policies to reflect unique political economies. While competition policy in most jurisdictions is shaped by comparable neoliberal or nationalist discourse, context-specific revitalisation will be required given they are also shaped, to some extent, by socio-political discourses (Newman 2021; Wood et al. 2024).

At the global level, proposals such as a global treaty on competition (administered by a multi-lateral body like the United Nations) may be necessary for cross-border oversight of large-scale mergers. This would allow for the assessment of the impacts of high concentration across a range of issues beyond conventional concerns of price, to include issues such as consolidated power as well as environmental impacts, farmer livelihoods, and animal welfare (Mooney 2017). More extensive indicators of concentration would be required in this setting, accounting for the risks of consolidated power and political influence. This type of effort can build upon existing frameworks such as the United Nations Conference on Trade and Development (UNCTAD) Model Law on Competition Policy and the Set of Multilaterally Agreed Equitable Control of Restrictive Business Practices (UNCTAD 2015).

However, global competition policies may disproportionately favour economically powerful nations, leading to an imbalance in enforcement and compliance. Any global competition treaty should be developed through inclusive and transparent processes, considering the diverse needs and capacities of both the global North and South. It should also allow for flexibility in implementation to accommodate the unique economic circumstances of low- and middle-income countries. Yet, such initiatives will likely rely on domestic governments for enforcement, raising concerns about capacity and corruption. Similarly, addressing health and environmental issues hinges on the strength of national regulatory systems, which often face limitations. Coordinated global efforts, including campaigns within United Nations forums, must advocate for dismantling subsidies and practices that promote concentration in the global meat industry

while addressing the industry's contributions to environmental degradation, exploitation in supply chains, and displacement of Indigenous peoples. Raising public awareness of these corporate governance issues will be critical to driving political will and initiating regulatory reforms that prioritise the well-being of populations and the environment over corporate power.

Future research

While this paper focuses on the advantages conferred by national champion policies, we acknowledge the importance of examining the competitive advantages and disadvantages faced by firms from countries without such state support. Future research should explore how companies in these latter contexts, including those from the U.S., the EU, or other emerging markets, may leverage different strategies, such as technological innovation, private financing, or global supply chain integration, to compete with national champions from China and Brazil. Such comparative studies would provide a more comprehensive understanding of the dynamics shaping the global corporate-industrial meat industry.

Future research could also prioritise uncovering the hidden distortions caused by corporate lobbying efforts, including the allocation of resources to influence legislators through campaign financing. Detailed investigations are necessary to expose the scope of these practices, which often enable large corporations to secure favourable policies, further consolidating their market dominance. However, to effectively address these issues, governments must enhance transparency and reduce the protection of ‘confidential’ business information. Without measures such as wiretap investigations, as seen in the JBS bribery case (do Nascimento Ferreira Barros, Rodrigues, and Panhoca 2019), key drivers of corporate dominance may continue to remain hidden. While not totally feasible or in the remit for academics to uncover illegal activities such as price-fixing, dumping, and collusion with national

governments, these strategies do create differential advantages that merit further scrutiny and policy intervention.

Based on these findings, the current capitalist development model driving the excessive concentration of meat production in major exporting countries requires further critique. This monopolistic corporate regime, marked by extractivism and unsustainable practices, poses significant risks, particularly for populations in the global South. Future research must delve deeper into the drawbacks of this corporate governance model, which is often sustained by state support and lobbying efforts that distort corporate advantages and exacerbate inequalities.

Conclusion

This study examines the evolving landscape of already highly concentrated global meat supply chains, with a focus on the emergence of national champion firms. Given the stated aims of these firms and their respective States is to reduce competition and gain power in food systems, there is an urgent need for more robust policy responses. We observe aggressive acquisition strategies by national champion meat processors (in the style of 'gin rummy' managerial behaviours), notably in firms like JBS, fuelled by state-backed support. Our analysis also reveals that national champion policy schemes often yield a more favourable return on investment for the involved firms than for governments despite national development banks supporting them/being major shareholders. This is exemplified by numerous allegations of corruption, price fixing, and tax avoidance levelled against the majority of national champion firms. Further, the increasing involvement of institutional investors in national champion firms raise concerns about added incentives for industry consolidation and anti-competitive behaviours.

Addressing the challenges posed by these entities requires not only domestic measures but also a broader international perspective,

encompassing antitrust revitalisation and subsidy dismantling. The pivotal role of corporate power dynamics in shaping the trajectory of food systems emphasises the imperative for informed and decisive policy interventions to foster transitions towards healthier, sustainable, and just food systems.

This analysis of national champion meat companies offers critical insights into the shifting dynamics of global food politics. As BRICS countries – particularly Brazil and China – rise in prominence within the global food system, these firms not only reflect their respective states' geopolitical strategies but also signal a reconfiguration of economic power in global food regimes. State-backed meat processor firms are increasingly outgrowing traditional market leaders in food systems long dominated by Western corporations, marking a significant shift in who holds power and whom these food systems serve. This trend points to a broader realignment in the global political economy, where national policies and corporate strategies reshape markets in unsustainable and extractive ways. These developments raise important questions about future governance of food systems, with ongoing health, equity, and environmental challenges remaining unaddressed. Through the application of Capital as Power, this study contributes to our understanding of how economic power and state-backed corporate strategies can shape global food regimes. These findings are timely and politically significant as we grapple with the implications of such concentrated power for food sovereignty, equity, and sustainability in the global South and beyond.

Authorship

PHH and KS designed the study. KS and PHH collected the data. PHH and KS analysed the data with input from ASMP and MY. KS led the drafting of the manuscript with input and critical reviews from PHH, ASMP, and MY.

All authors were involved in reviewing the manuscript and

approve this version.

'National champions' in global meat supply chains: implications for governance and corporate power in food systems

Notes

Disclosure statement

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Figure 1 Ownership changes involving the 25 most dominant global meat processors, 2000 to 2023.

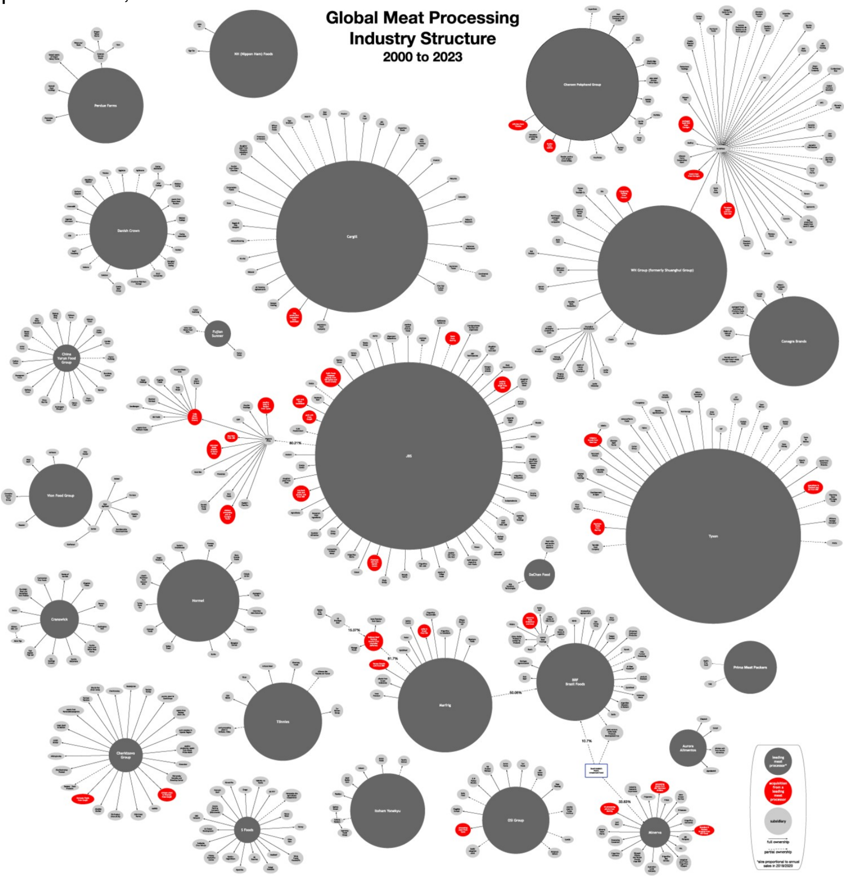
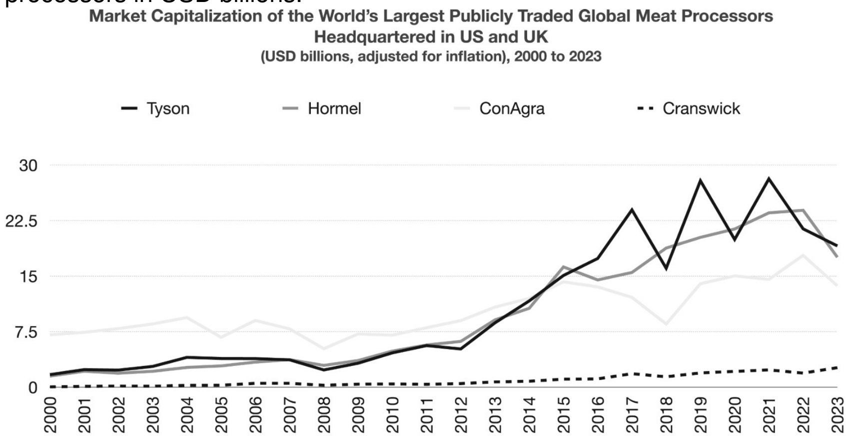
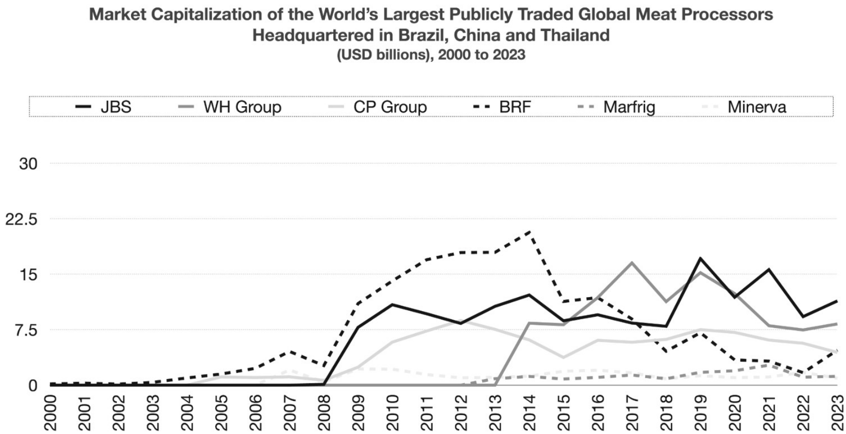


Figure 2. Market capitalization of the largest publicly traded global meat processors in USD billions.



(a)



(b)

Figure 3. Institutional investors in the world's largest publicly traded global meat processors (percentages of common stock equivalent held, December 2023).[3]

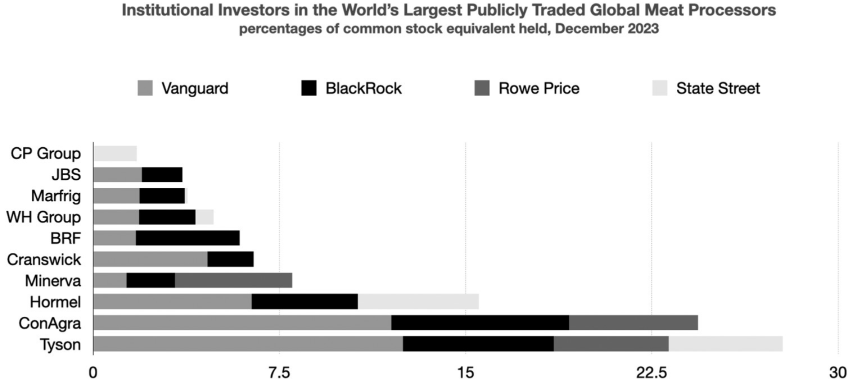


Figure 4. Connections to meat processors in the U.S. via membership in Agri Stats, Inc. data sharing services.

Connections via Agri Stats